south as southeastern Honshu on the 10th. On the 11th and 12th the storm increased in energy as it proceeded northeastward, the wind rising to force 11 on the earlier date near 42° N., 155° E., and on the 12th near 48° N., 164° E. On the 13th and 14th the disturbance was central over the Bering Sea, but accompanying winds of fresh to whole gale force were experienced by a number of ships between 40° and 50° N., 160° E. and 160° W.

The third cyclone formed as a depression south of Japan about the 24th. Its center moved north along the Japanese east coast until the 27th, when it lay east of the Kuril Islands. Thence it proceeded into the Bering Sea. Gales of force 8–9 accompanied it during most of its passage of the usual ship-traveled zone during the 25th–26th. On the 27th, however, the Japanese S. S. *Hiye Maru* experienced gales of force 10 near 45° N., 155° E., with barometer depressed to 28.67 inches. On the early morning of the 28th, while the storm center was far to the northeastward, this ship experienced a west gale of force 11 near 42° N., 149° E.

On the 18th the British S. S. *Empress of Asia* encountered a gale of force 11, barometer 28.60, near 46° N., 159° E. It is evident that a deep cyclone was then in existence in this stormy northwestern sector of the ocean, but little is known of its history, except that on the 18th winds of force 10, in addition to the force 11 mentioned, occurred over a considerable region east of the Kuril Islands.

On the 11th, 12th, and 24th ships encountered fresh to strong gales off the Washington and Oregon coasts, and to seaward practically as far as 140° W. The highest wind velocity at the exposed land station, Tatoosh Island, was 56 miles from the southwest on the 24th. The 2d, 3d, and 20th were also stormy days locally between approximately 40° and 50° N., 130° and 145° W., with gales of force 10 occurring on the 2d and 20th.

Northeast of the Hawaiian Islands several depressions affected the weather situation. The first was of brief existence, but resulted in a gale of force 9 near 25° N., 154° W. The most important LOW was that which appeared central near 27°–28° N., 142°–143° W., on the 14th and 15th, thence moved slowly northwestward, diminishing in intensity until its disappearance on the 22d north of Midway Island. During the 14th and 15th —the only days on which gales were reported in connection with the disturbance—the field of high winds lay roughly between 25° and 35° N., 135° and 150° W. The maximum wind force was 10, near 26° N., 146° W., on the 14th.

On March 4 the British S. S. *Makura* reported an east gale of force 9 in 8° 35′ N., 138° 08′ W. Owing to the fact that the ship's corrected barometer fell to 29.66 on that date, there is room for a reasonable suspicion that a depression had formed in the vicinity.

Tehuantepecers.—Northers occurred in the Gulf of Tehuantepec as follows: Of force 7 on the 2d; of force 8 on the 14th.

Fog.—The distribution of fog differed considerably in March from that of the preceding February, there being a much less occurrence along the American coast, except in the Tropics, and much more trans-Pacific fog. For the coast, it was reported on 2 days north of the 30th parallel; on 1 day off Lower California; on 5 days in the Gulf of Tehuantepec; and on 1 day near the Costa Rica coast. Along the eastern two-thirds of the northern and central routes 1 to 4 days of fog were observed in most of the 5° squares north of 35° N.

SEA-SURFACE TEMPERATURE SUMMARY FOR THE WESTERN CARIBBEAN SEA

By GILES SLOCUM

The area embraced in this summary is the 5° square from 80° W. to 85° W. and 15° N. to 20° N. The table shows monthly mean sea-surface temperatures, computed to tenths of a degree for the period 1920 to 1933, inclusive.

Monthly and annual sea-surface temperatures in the western Caribbean Sea, 1920 to 1933, inclusive

Year	Total number of observations for the year	January	February	March	April	May	June	July	August	September	October	November	December	Annual
1920	205	77.7	78.0	78.8	79.4	80.5	81.1	81.3	82.0	82.2	81.8	82.2	80.2	80.4
1921	328	78.5	79.4	78.4	79.8	80.7	80.9	81.8	81.7	81.9	81.8	80.7	80.4	80.5
1922	246	79.5	78.6	79.3	79.2	79.8	81.2	81.6	81.8	83.0	82.2	81.6	79.2	80.6
1923	366	78.4	78.0	78.5	79.5	81.1	80.9	81.7	82.4	82.7	81.4	80.8	79.5	80.4
1924	331	78.7	77.7	78.4	79.7	81.3	81.8	81.5	82.8	84.2	82.0	81.0	79.8	80.7
1925	512	78.9	78.9	78.6	80.6	81.4	81.4	81.4	82.3	82.5	82.7	82.1	80.9	81.0
1926	602	79.6	78.9	79.5	81.1	82.2	82.3	83.2	83.1	82.1	82.8	81.6	80.9	81.4
1927	624	79.0	79.3	79.6	80.2	81.3	82.4	82.3	83.1	84.2	83.6	81.7	80.5	81.4
1928	608	78.8	78.5	78.6	79.5	80.8	81.5	81.3	82.9	82.8	82.6	81.9	79.4	80.7
1929	714	79.4	78.8	79.7	80.0	80.2	81.5	82.0	82.3	82.5	82.4	81.9	80.0	80.9
1930	616	78.6	78.9	79.5	79.9	82.2	82.1	82.3	83.0	83.4	83.7	81.9	80.5	81.3
1931	679	80.5	79.2	79.8	80.6	83.2	83.9	83.6	83.7	83.9	83.2	81.8	80.7	82.0
1932	665	80.1	79.6	80.1	80.5	80.8	82.5	82.8	83.6	84.4	84.1	81.1	79.6	81.6
1933	690	79.3	79.5	79.9	80.4	81.4	82.8	83.0	83.6	83.4	82.5	81.3	79.4	81.4
Number of years' record	------	14	14	14	14	14	14	14	14	14	14	14	14	14
Mean (1912-33)	------	79.1	78.8	79.2	80.0	81.2	81.9	82.1	82.7	83.1	82.8	81.5	80.1	81.0

DUST STORMS

[Compiled by W. A. MATTICE]

Dust storms, or wide-spread dusty conditions, were first brought to the attention of many people during November 1933 when dust was transported from our Midwestern States to eastern sections. During the spring of 1934 other wide-spread distributions of dust occurred, culminating with one of marked intensity in May. These storms have been rather fully reported in the February 1935 MONTHLY WEATHER REVIEW.

The period June 1, 1934, to February 28, 1935, was one of continued dusty conditions over the Plains States. There were not, however, such favorable combinations of air movement as to carry the dust over great distances. The storms were confined largely to the section of origin—the western Plains. Figure 1 shows for this period the number of days with dusty conditions, as reported by first-order stations of the Weather Bureau. There are two regions of intense dustiness, centered in eastern South Dakota and in northwestern Texas. The latter locality has continued to be unfavorably dry, but the former had beneficial precipitation during early April this year. During the period under consideration there were only two instances of dust being transported over large distances from the place of origin. The first was around June 1, 1934, and the second about February 22, 1935. In neither of these cases, however, was the dust widely distributed; it was confined to the upper Mississippi Valley, except for scattered, localized occurrences elsewhere.